Psychopharmacology

CONTENTS OF VOLUME 146 · 1999

	For North and South America	For the rest of the world
Clinical psychopharmacology		
Field editors	J.H. Krystal, West Haven	J. Gerlach, Roskilde P.J. Cowen, Oxford
Advisory editors	B. Cohen, Belmont M. Laruelle, New York C.J. McDougle, Indianapolis R. Poland, Torrance	P. Bech, Hillerød W.F. Gattaz, São Paulo O. Lingjaerde, Oslo E.S. Paykel, Cambridge
Human cognitive psychopharmacology		
Field editors	H. de Wit, Chicago	D.M. Warburton, Reading
Advisory editors	E. Gamzu, Cambridge T. Roehrs, Detroit B.J. Spring, North Chicago H. Weingartner, Washington DC	I. Hindmarch, Guildford B.J. Sahakian, Cambridge K. Siegfried, Frankfurt
Alcohol and substance abuse in humans		
Field editors	H. de Wit, Chicago	D.M. Warburton, Reading
Advisory editors	G. Bigelow, Baltimore S.S. O'Malley, New Haven K.A. Perkins, Pittsburgh	I. Hindmarch, Guildford B.J. Sahakian, Cambridge K. Siegfried, Frankfurt
Biochemical neuropharmacology, drug metabolism and pharmacokinetics		
Field editors	D.R. Sibley, Bethesda	J. Leysen, Beerse
Advisory editors	I. Creese, Newark I. Kopin, Bethesda J.M. Perel, Pittsburgh B.L. Roth, Cleveland	J. Heykants, Beerse J. Hyttel, Copenhagen-Valby C.A. Marsden, Nottingham M.B.H. Youdim, Haifa
Behavioral pharmacology in laboratory animals		
Field editors	K.A. Miczek, Medford	T.W. Robbins, Cambridge
Advisory editors	J. Bergman, Belmont M.E. Carroll, Minneapolis C.L. Cunningham, Portland K.A. Grant, Winston-Salem S.G. Holtzman, Atlanta R.A. Wise, Baltimore	A.R. Cools, Nijmegen B.J. Everitt, Cambridge A.J. Goudie, Liverpool W. Koek, Castres I.P. Stolerman, London M.-H. Thiebot, Paris
Preclinical psychopharmacology		
Field editors	M.A. Geyer, La Jolla	A.R. Green, Loughborough
Advisory editors	C.W. Bradberry, West Haven J.N. Crawley, Bethesda G.F. Koob, San Diego I. Lucki, Philadelphia N.R. Swerdlow, La Jolla	G. Di Chiara, Cagliari D.J. Heal, Nottingham P. Jenner, London H.J. Little, Durham J.L. Waddington, Dublin

Psychopharmacology

This journal was founded as
Psychopharmacologia in 1959 and was renamed
Psychopharmacology beginning with
Vol. 46 (1976).

The journal has been edited by the following Managing Editors:

Vol. 1 (1959), E. Rothlin and A. Wikler; Vol. 2 (1961), E. Rothlin and H. Isbell; Vol. 3 (1962), E. Rothlin and A. Wikler; Vol. 4 (1963)–Vol. 7 (1965), J.O. Cole and E. Rothlin; Vol. 8 (1965)–Vol. 16 (1969), J.O. Cole, E. Jacobsen, M.E. Jarvik, M. Shepherd; Vol. 17 (1970), J.O. Cole, E. Jacobsen, C. Kornetzky, M. Shepherd; Vol. 18 (1970)–Vol. 27 (1972), J.O. Cole, M. Hamilton, E. Jacobsen, C. Kornetzky; Vol. 28 (1973)–Vol. 35 (1974), J.O. Cole, M. Hamilton, E. Jacobsen, C. Kornetzky, R.W. Russell; Vol. 36 (1974)–Vol. 69 (1980), H. Barry III, J.O. Cole, M. Hamilton, E. Jacobsen, R.W. Russell; Vol. 70 (1980)–Vol. 77 (1982), H. Barry III, J.O. Cole, M. Hamilton, T.W. Robbins, R.W. Russell.

Starting with Vol. 80 (1983) the Editors have been: H. Barry III, T.W. Robbins (Coordinating Editors), J.O. Cole, J. Gerlach, M. Hamilton, J. Leysen, F. Sulser. As of Vol. 85 (1985): H. Barry III, D.E. Casey, J.O. Cole, J. Gerlach, S.D. Glick, A.R. Green, M. Hamilton, J. Leysen, T.W. Robbins, F. Sulser. As of Vol. 92 (1987): H. Barry III, D.E. Casey, J.Gerlach, S.D. Glick, A.R. Green, J. Leysen, T.W. Robbins, B.J. Spring, F. Sulser, D.M. Warburton. As of Vol. 98 (1989): H. Barry III, D.E. Casey, J. Gerlach, S.D. Glick, A.R. Green, J. Leysen, T.W. Robbins, D.R. Sibley, B.J. Spring, D.M. Warburton. As of Vol. 106 (1992): D.E. Casey, J. Gerlach, M.A. Geyer, A.R. Green, J. Leysen, K.A. Miczek, T.W. Robbins, D.R. Sibley, B.J. Spring, D.M. Warburton. As of Vol. 109 (1992): D.E. Casey, J. Gerlach, M.A. Geyer, A.R. Green, J. Leysen, K.A. Miczek, T.W. Robbins, D.R. Sibley, B.J. Spring, D.M. Warburton, H. de Wit. As of Vol. 117 (1995): D.E. Casey, J. Gerlach, M.A. Geyer, A.R. Green, J. Leysen, K.A. Miczek, T.W. Robbins, D.R. Sibley, D.M. Warburton, H. de Wit. As of Vol. 129 (1997): D.E. Casey, P.J. Cowen, J. Gerlach, M.A. Geyer, A.R. Green, J. Leysen, K.A. Miczek, W. Potter, T.W. Robbins, D.R. Sibley, D.M. Warburton, H. de Wit. As of Vol. 142 (1999): P.J. Cowen, J. Gerlach, M.A. Geyer, A.R. Green, J.H. Krystal, J. Leysen, K.A. Miczek, T.W. Robbins, D.R. Sibley, D.M. Warburton, H. de Wit.

Springer

Copyright

Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, or thesis); that it is not under consideration for publication elsewhere; that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher; and that the manuscript will not be published elsewhere in any language without the consent of the copyright holders.

All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e.g., as offprints), as well as all translation rights. No material published in this journal may be reproduced photographically or stored on microfilm, in electronic data bases, video disks, etc., without first obtaining written permission from the publisher.

The use of general descriptive names, trade names, trademarks, etc., in this publication, even if not specifically identified, does not imply that these names are not protected by the relevant laws and regulations.

While the advice and information in this journal is believed to be true and accurate at the date of its going to press, neither the authors, the editors, nor the publisher can accept any legal responsibility for any errors or omissions that may be made.

The publisher makes no warranty, express or implied, with respect to the material contained herein.

Special regulations for photocopies in the USA: Photocopies may be made for personal or in-house use beyond the limitations stipulated under Section 107 or 108 of U.S. Copyright Law, provided a fee is paid. All fees should be paid to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA, stating the ISSN 0033-3158, the volume, and the first and last page numbers of each article copied. The copyright owner's consent does not include copying for general distribution, promotion, new works, or resale. In these cases, specific written permission must first be obtained from the publisher.

The Canada Institute for Scientific and Technical Information (CISTI) provides a comprehensive, world-wide document delivery service for all Springer-Verlag journals. For more information, or to place an order for a copyright-cleared Springer-Verlag document, please contact Client Assistant, Document Delivery, Canada Institute for Scientific and Technical Information, Ottawa K1A 0S2, Canada, e-mail: cisti.docdel@nrc.ca, Tel.: +1-613-993-9251, Fax: +1-613-952-8243

ADONIS Identification System

This journal is included in the ADONIS service, whereby copies of individual articles can be printed out from compact discs (CD-ROM) on demand. An explanatory leaflet giving further details of the scheme is available from the publishers on request.

Typesetters and printers

Stürtz AG, Würzburg, Germany

Publisher

© Springer-Verlag Berlin Heidelberg 1999
Springer-Verlag GmbH & Co. KG Berlin, Germany

Printed in Germany

Contents of Volume 146 · 1999

Ahmed SH, Koob GF: Long-lasting increase in the set point for cocaine self-administration after escalation in rats 303
Ahokas A, Kaukoranta J, Aito M: Effect of oestradiol on postpartum depression 108
Ainslie G → Monterosso J
Aito M → Ahokas A
Amado I → Millet B
Amano T → Matsubayashi H
Amass L → Bickel WK
Andreas J → Gründer G
Andringa G, Stoof JC, Cools AR: Sub-chronic administration of the dopamine D_1 antagonist SKF 83959 in bilaterally MPTP-treated rhesus monkeys: stable therapeutic effects and wearing-off dyskinesia 328
Anzawa N → Kubota T
Auerbach PP → Swerdlow NR
Avenet P → Griebel G

Badger GJ → Bickel WK
Baker DA → Tran-Nguyen LTL
Ballard TM, McAllister KH: The acetylcholinesterase inhibitor, ENA 713 (Exelon), attenuates the working memory impairment induced by scopolamine in an operant DNMTP task in rats 10
Balster RL → Nicholson KL
Bardo MT, Green TA, Crooks PA, Dwoskin LP: Nornicotine is self-administered intravenously by rats 290
Barta S → Dierks T
Battisti JJ, Uretsky NJ, Wallace LJ: Sensitization of apomorphine-induced stereotyped behavior in mice is context dependent 42
Benkert O → Gründer G
Bickel WK, Amass L, Crean JP, Badger GJ: Buprenorphine dosing every 1, 2, or 3 days in opioid-dependent patients 111
Bickel WK, Odum AL, Madden GJ: Impulsivity and cigarette smoking: delay discounting in current, never, and ex-smokers 447
Bigelow GE → Silverman K
Bizot J-C, Le Bihan C, Puech AJ, Hamon M, Thiébot M-H: Serotonin and tolerance to delay of reward in rats 400
Blackshaw AJ → Rogers RD
Bogdan A → Millet B
Bonsall RW → West CHK
Bourdel M-C → Millet B
Bradberry CW, Lee T, Jatlow P: Rapid induction of behavioral and neurochemical tolerance to cocaethylene, a model compound for agonist therapy of cocaine dependence 87
Bradshaw CM → Ho M-Y
Braff DL → Swerdlow NR

Cadenhead K → Swerdlow NR
Casey DE → Shiigi Y
Castellano C → Cestari V
Cestari V, Ciamei A, Castellano C: Strain-dependent effects of MK-801 on passive avoidance behaviour in mice: interactions with morphine and immobilization stress 144
Chambers JW → Fletcher PJ
Cherek DR, Lane SD: Effects, of *d,l*-fenfluramine on aggressive and impulsive responding in adult males with a history of conduct disorder 473
Chiang T-J → Ho M-Y
Chou Y-H, Karlsson P, Halldin C, Olsson H, Farde L: A PET study of D_1-like dopamine receptor ligand binding during altered endogenous dopamine levels in the primate brain 220
Chutuape MA → Silverman K
Ciamei A → Cestari V
Cools AR → Andringa G
Coupland N → Potokar J
Crean JP → Bickel WK
Crooks PA → Bardo MT
Crowley C → Rogers RD
Cunningham CL, Dickinson SD, Grahame NJ, Okorn DM, McMullin CS: Genetic differences in cocaine-induced conditioned place preference in mice deend on conditioning trial duration 73

D'Amato FR → Mandillo S
De Lucca EM → Souza-Formigoni MLO
Deakin JFW → Rogers RD
Demisch L → Dierks T
Dewey SL → Gatley SJ
Dickinson SD → Cunningham CL
Dierks T, Barta S, Demisch L, Schmeck K, Englert E, Kewitz A, Maurer K, Poustka F: Intensity dependence of auditory evoked potentials (AEPs) as biological marker for cerebral serotonin levels: effects of tryptophan depletion in healthy subjects 101
Ding Y-S → Gatley SJ
Dwoskin LP → Bardo MT
Dykstra LA → West JP

Eissner D → Gründer G
Emery MS → West CHK
Englert E → Dierks T
Enns SC → Souza-Formigoni MLO
Evenden J: The pharmacology of impulsive behaviour in rats VII: the effects of serotonergic agonists and antagonists on responding under a discrimination task using unreliable visual stimuli 422
Evenden J: Varieties of impulsivity 348
Evenden JL, Ryan CN: The pharmacology of impulsive behaviour in rats VI: the effects of ethanol and selective serotonergic drugs on response choice with varying delays of reinforcement 413

Faccidomo S → Fish EW
Fahle M → Wegner A-J
Fahlke C, Hansen S: Alcohol responsiveness, hyperreactivity, and motor restlessness in an animal model for attention-deficit hyperactivity disorder 1
Farde L → Chou Y-H
Feifel D, Priebe K: The effects of subchronic haloperidol on intact and dizocilpine-disrupted sensorimotor gating 175
Finn PR, Justus A, Mazas C, Steinmetz JE: Working memory, executive processes and the effects of alcohol on Go/No-Go learning: testing a model of behavioral regulation an impulsivity 465
Fish EW, Faccidomo S, Miczek KA: Aggression heightened by alcohol or social instigation in mice: reduction by the $5\text{-}HT_{1B}$ receptor agonist CP-94,253 391
Fletcher PJ, Korth KM, Chambers JW: Depletion of brain serotonin following intra-raphe injections of 5,7-dihydroxy-tryptamine does not alter *d*-amphetamine self-administration across different schedule and access conditions 185
Folley BS → Schmidt ME
Fowler JS → Gatley SJ
France CP → Gerak LR

Gatley SJ, Volkow ND, Gifford AN, Fowler JS, Dewey SL, Ding Y-S, Logan J: Dopamine-transporter occupancy after intravenous doses of cocaine and methylphenidate in mice and humans 93
George FR → O'Dell LE
Gerak LR, France CP: Discriminative stimulus effects of flumazenil in untreated and in diazepam-treated rhesus monkeys 252
Geter-Douglass B, Witkin JM: Behavioral effects and anticonvulsant efficacies of low-affinity, uncompetitive NMDA antagonists in mice 280
Geyer MA → Swerdlow NR
Gifford AN → Gatley SJ
Grabarek JA → Kelsey JE
Grahame NJ → Cunningham CL
Granger P → Griebel G
Green TA → Bardo MT
Griebel G, Perrault G, Letang V, Granger P, Avenet P, Schoemaker H, Sanger DJ: New evidence that the pharmacological effects of benzodiazepine receptor ligands can be associated with activities at different BZ (ω) receptor subtypes 205
Grote KA → Tran-Nguyen LTL
Gründer G, Müller MJ, Andreas J, Heydari N, Wetzel H, Schlösser R, Schlegel S, Nickel O, Eissner D, Benkert O: Occupancy of striatal D_2-like dopamine receptors after treatment with the sigma ligand EMD 57445, a putative atypical antipsychotic 81

Halldin C → Chou Y-H
Hamon M → Bizot J-C
Hansen S → Fahlke C
Hantouche E-G → Millet B
Hartman PL → Swerdlow NR

6 158HI XL 3522 ICI 4/00 31249-200 NJLB

Hawtin K → Rogers RD
Hayes BA → Nicholson KL
Heydari N → Gründer G
Higley JD → Westergaard GC
Hipólide DC → Souza-Formigoni MLO
Hirota K → Kubota T
Ho M-Y, Mobini S, Chiang T-J, Bradshaw CM, Szabadi E: Theory and method in the quantitative analysis of "impulsive choice" behaviour: implications for psychopharmacology 362
Hopwood A → Rogers RD

Jatlow P → Bradberry CW
Jentsch JD, Taylor JR: Impulsivity resulting from frontostriatal dysfunction in drug abuse: implications for the control of behavior by reward-related stimuli 373
Justus A → Finn PR

Karlsson P → Chou Y-H
Kaukoranta J → Ahokas A
Kelsey JE, Grabarek JA: Medial septal lesions in rats enhance locomotor sensitization to amphetamine 233
Kewitz A → Dierks T
Kim H-G → Schmidt ME
Koob GF → Ahmed SH
Kopf SR, Melani A, Pedata F, Pepeu G: Adenosine and memory storage: effect of A_1 and A_2 receptor antagonists 214
Kornetsky C → Wennemer HK
Korth KM → Fletcher PJ
Kreifeldt MJ → O'Dell LE
Kubota T, Hirota K, Yoshida H, Takahashi S, Anzawa N, Ohkawa H, Kushikata T, Matsuki A: Effects of sedatives on noradrenaline release from the medial prefrontal cortex in rats 335
Kushikata T → Kubota T

Lane SD → Cherek DR
Le Bihan C → Bizot J-C
Leander JD → Wolff MC
Lee T → Bradberry CW
Letang V → Griebel G
Logan J → Gatley SJ
Lysle DT → West JP

Madden GJ → Bickel WK
Mancuso G, Warburton DM, Mélen M, Sherwood N, Tirelli E: Selective effects of nicotine on attentional processes 199
Mandillo S, D'Amato FR: Male olfactory cues affect mothers' behavior in mice: effects of benzodiazepines 297
Matsubayashi H, Amano T, Sasa M: Inhibition by aripiprazole of dopaminergic inputs to striatal neurons from substantia nigra 139
Matsuki A → Kubota T
Matthews K → Rogers RD
Maurer K → Dierks T
Mazas C → Finn PR
McAllister KH → Ballard TM
McAllister-Williams RH → Porter RJ
McKenna PJ → Mehta MA
McMullin CS → Cunningham CL
Mehlman PT → Westergaard GC
Mehta MA, Sahakian BJ, McKenna PJ, Robbins TW: Systemic sulpiride in young adult volunteers simulates the profile of cognitive deficits in Parkinson's disease 162
Melani A → Kopf SR
Mélen M → Mancuso G
Miczek KA → Fish EW
Miczek KA → Vivian JA
Middleton HC → Rogers RD
Millet B, Touitou Y, Poirier M-F, Bourdel M-C, Amado I, Hantouche E-G, Bogdan A, Olié J-P: Obsessive-compulsive disorder: evaluation of clinical and biological circadian parameters during fluoxetine treatment 268
Mitchell SH: Measures of impulsivity in cigarette smokers and non-smokers 455
Mobini S → Ho M-Y
Monterosso J, Ainslie G: Beyond discounting: possible experimental models of impulse control 339
Müller MJ → Gründer G

Neisewander JL → Tran-Nguyen LTL
Nicholson KL, Hayes BA, Balster RL: Evaluation of the reinforcing properties and phencyclidine-like discriminative stimulus effects of dextromethorphan and dextrorphan in rats and rhesus monkeys 49
Nickel O → Gründer G
Nobrega JN → Souza-Formigoni MLO
Nutt D → Potokar J

O'Dell LE, Kreifeldt MJ, George FR, Ritz MC: Serotonin$_{2C}$ receptors appear to mediate genetic sensitivity to cocaine-induced convulsions 313
Odum AL → Bickel WK
Ohkawa H → Kubota T
Okorn DM → Cunningham CL
Olié J-P → Millet B
Oliveira MGM → Souza-Formigoni MLO
Olsson H → Chou Y-H
Oshinsky RJ → Schmidt ME

Pedata F → Kopf SR
Pepeu G → Kopf SR
Perrault G → Griebel G
Perry W → Swerdlow NR
Poirier M-F → Millet B
Porter RJ, McAllister-Williams RH, Young AH: Acute effects of venlafaxine and paroxetine on serotonergic transmission in human volunteers 194
Potokar J, Coupland N, Wilson S, Rich A, Nutt D: Assessment of $GABA_A$ benzodiazepine receptor (GBzR) sensitivity in patients on benzodiazepines 180
Potter WZ → Schmidt ME
Poustka F → Dierks T
Priebe K → Feifel D
Puech AJ → Bizot J-C

Rich A → Potokar J
Richards JB, Sabol KE, Wit H de: Effects of methamphetamine on the adjusting amount procedure, a model of impulsive behavior in rats 432
Ritz MC → O'Dell LE
Robbins TW → Mehta MA
Robbins TW → Rogers RD
Rogers RD, Blackshaw AJ, Middleton HC, Matthews K, Hawtin K, Crowley C, Hopwood A, Wallace C, Deakin JFW, Sahakian BJ, Robbins TW: Tryptophan depletion impairs stimulus-reward learning while methylphenidate disrupts attentional control in healthy young adults: implications for the monoaminergic basis of impulsive behaviour 482
Ryan CN → Evenden JL

Sabol KE → Richards JB
Sahakian BJ → Mehta MA
Sahakian BJ → Rogers RD
Sanger DJ → Griebel G
Sasa M → Matsubayashi H
Schlegel S → Gründer G
Schlösser R → Gründer G
Schmeck K → Dierks T
Schmidt ME, Oshinsky RJ, Kim H-G, Schouten JL, Folley BS, Potter WZ: Cerebral glucose metabolic and plasma catecholamine responses to the α_2 adrenoceptor antagonist ethoxyidazoxan given to healthy volunteers 119
Schoemaker H → Griebel G
Schouten JL → Schmidt ME
Sherwood N → Mancuso G
Shiigi Y, Casey DE: Behavioral effects of ketamine, an NMDA glutamatergic antagonist, in non-human primates 67
Silverman K, Chutuape MA, Bigelow GE, Stitzer ML: Voucher-based reinforcement of cocaine abstinence in treatment-resistant methadone patients: effects of reinforcement magnitude 128
Solano J → Tran-Nguyen LTL
Souza-Formigoni MLO, De Lucca EM, Hipólide DC, Enns SC, Oliveira MGM, Nobrega JN: Sensitization to ethanol's stimulant effect is associated with region-specific increases in brain D2 receptor binding 262
Sprock J → Swerdlow NR
Steinmetz JE → Finn PR
Stitzer ML → Silverman K
Stoof JC → Andringa G
Suomi SJ → Westergaard GC
Svenson J → Wit H de
Swerdlow NR, Geyer MA, Hartman PL, Sprock J, Auerbach PP, Cadenhead K, Perry W, Braff DL: Sex differences in sensorimotor gating of the human startle reflex: all smoke? 228
Szabadi E → Ho M-Y

Takahashi S → Kubota T
Taylor JR → Jentsch JD
Thiébot M-H → Bizot J-C
Tirelli E → Mancuso G
Touitou Y → Millet B
Tran-Nguyen LTL, Baker DA, Grote KA, Solano J, Neisewander JL: Serotonin depletion attenuates cocaine-seeking behavior in rats 60

Uretsky NJ → Battisti JJ

Vivian JA, Miczek KA: Interactions between social stress and morphine in the periaqueductal gray: effects on affective vocal and reflexive pain responses in rats 153
Volkow ND → Gatley SJ

Wallace C → Rogers RD
Wallace LJ → Battisti JJ
Warburton DM → Mancuso G
Wegner A-J, Fahle M: Alcohol and visually guided saccades: gap effect and predictability of target location 24
Weiss JM → West CHK
Wennemer HK, Kornetsky C: Fluoxetine blocks expression but not development of sensitization to morphine-induced oral stereotypy in rats 19
West CHK, Bonsall RW, Emery MS, Weiss JM: Rats selectively bred for high and low swim-test activity show differential responses to dopaminergic drugs 241
West JP, Dykstra LA, Lysle DT: Immunomodulatory effects of morphine withdrawal in the rat are time dependent and reversible by clonidine 320
Westergaard GC, Suomi SJ, Higley JD, Mehlman PT: CSF 5-HIAA and aggression in female macaque monkeys: species and interindividual differences 440
Wetzel H → Gründer G
Wilson S → Potokar J
Wit H de, Svenson J, York A: Non-specific effect of naltrexone on ethanol consumption in social drinkers 33
Wit H de → Richards JB
Witkin JM → Geter-Douglass B
Wolff MC, Leander JD: The discriminative stimulus properties of LY233708, a selective serotonin reuptake inhibitor, in the pigeon 275

York A → Wit H de
Yoshida H → Kubota T
Young AH → Porter RJ

Indexed in *Current Contents, Psychological Abstracts, Psyc* INFO, *Index Medicus* and in *EMBASE*

Subject index of Volume 146 · 1999

Addiction 303, 373
Adenosine 214
α_2-Adrenoceptor 119
Affect 153
Aggression 153, 391, 440, 473
Agonist therapy 87
AIDS 128
Alcohol 391
Alcohol drinking 1
Alcohol effect 465
Ambulation 241
Amphetamine 185, 220, 233, 241, 373
Amygdala 373
Antinociception 153
Antipsychotic 81
Anxiety 205
Apomorphine 42, 241
Aripiprazole 139
Attention 162, 199
Attentional control 482
Auditory evoked potentials 101
Behavioral genetic 73
Behaviour 67, 328, 348
Benzazepine 328
Benzodiazepine 180, 205, 252, 400
Buprenorphine 111
BZ (ω) receptor 205
C57BL/6J 73
Caffeine 214
Cannabis 373
Catecholamine 119, 482
β-CCM 297
β-CCT 205
Cerebral glucose metabolic rate 119
Chlordiazepoxide 297
Choice 432
Choice tasks 455
Cigarette 447
Circadian variation 268
Clonidine 320
Cocaethylene 87
Cocaine 73, 87, 93, 303, 313, 373
Cocaine dependence 128
Cocaine-seeking behavior 60
Cognition 162, 373
Compulsion 373
Conditioned place preference 73
Conditioned reward 373
Conditioned stimulus 373
Conspecific odors 297
Contingency management 128
Convulsion 280, 313
Convulsions 205
Corpus striatum 139
Cortisol 268
CP-94,253 391
D_1 agonist 328
D_1 antagonist 328
D_1 dopamine receptor 220
DBA/2J 73
Defensive behaviour 1
Delay 432
Delay discounting 447
Delay of reinforcement 362
Delay of reward 400
Delayed non-matching to position task 10
Delayed reinforcement 413
Dependence 87, 252
Depression 108
Dextromethorphan 49
Dextrorphan 49
5,7-DHT 400
Diazepam 1, 205, 252
5,7-Dihydroxytryptamine 185
Dipole analysis 101
Discriminative stimulus effect 280
Distractibility 482
Dizocilpine 175
DOI 422
Dopamine 87, 162, 185, 373
Dopamine D_2 receptor 139
Dopamine opiate 19
Dopamine receptor 81
Dopamine transporter 93
DPCPX 214
Drug abuse 432, 447
Drug addiction 233
Drug discrimination 49, 252, 275
Drug reward 290
Drug-seeking 373
Electroencephalography 101
EMD 57445 81
ENA 713 10
Endogenous dopamine 220
Environmental context 42
Escalation 303
Ethanol 24, 33, 413
Executive function 465
Exelon 10
Extinction 60
Extracellular recording in vivo 139
Eye movement 24
Female 440
Fleeing 1
Flumazenil 252, 297
Fluoxetine 268
Food-seeking behavior 60
Freezing 1
Frontal cortex 373
$GABA_A$ receptor 180, 335
Gap 24
Glutamate 67, 175
Growth hormone 194
Haloperidol 175
Heroin dependence 111
High-risk 465
Hippocampus 233
HIV 128
Homeostasis 303
5-HT receptor 391
$5\text{-}HT_{1A}$ 275
$5\text{-}HT_{1A}$ receptor ligands 400
Human 111, 465
Human performance 199
Human volunteer 194
5-Hydroxytryptamine 482
Hyperbolic discounting 339
Hyperbolic discounting functions 362
Imidazoline 119
Immobilization stress 144
Immune 320
Impulse control 400

Impulsive choice 362
Impulsivity 339, 348, 413, 422, 432, 440, 447, 465, 473, 482
–, self-control 455
In vivo binding 205
Inbred mice 73, 144
Incentive motivation 60
Incentive motivational 373
Indifference equations 362
Inhibitory control 373
Instigation 391
Intravenous drug abuse 128
Intruder 391
Iodobenzamide 81
Iontophoretic application 139
Ketamine 67, 335
Lactating female 297
Limbic 373
Locomotor activity 73, 262, 280
Locomotor sensitization 233
mCPP 313
Medial prefrontal cortex 335
Medial septum 233
Melatonin 268
Memory 214
Methadone 128
Methamphetamine 432
Methylphenidate 93
Mice 42, 205, 262, 280, 297
Midazolam 335
Midbrain dopamine 241
MK212 313
MK-801 144
Monkey 49, 373
Monoamine 1
Morphine 144, 320
Motor activity 391
Motor restlessness 1
Movement disorder 19
MPTP 328
Muscimol 400
Myorelaxation 205
Naltrexone 33, 144
Neonatal 1
Nicotine 199, 228, 290, 447
Nicotine metabolites 290
NMDA 67
NMDA antagonist 280
NMDA receptor 335
[^{11}-C]NNC 112 220
Non-human primate 67
Non-smoker 455
Noradrenaline 335
Norepinephrine 87, 320
Nornicotine 290
Nucleus accumbens 373
Obsessive-compulsive disorder 268
Oestradiol measurement 108
Oestrogen 108
6-OHDA 1
8-OH-DPAT 422
Opioid antagonist 33
Opioid dependence 111
Opioid withdrawal 111
Opioids 153
Para-chlorophenylalanine 60
Parkinson's disease 328
Paroxetine 194
Passive avoidance 144, 214
*p*CPA 400
Personality 348, 455
Phencyclidine 49, 373
Pigeon 275
Place conditioning 73
Positron emission tomography 220
Postpartum 108
Predictability 24
Preference 33
Prefrontal cortex (PFC) 482
Prepulse inhibition 175, 228
Primates 440
Probability of reinforcement 362
Prolactin 194
Propofol 335
Psychopharmacology 339
[^{3}H] raclopride 262
Rat 10, 19, 49, 335, 373, 400, 413, 432
Reaction time 422
Receptor 194
Reinforcement 73, 128, 185
Reserpine 220
Reward 73
Reward bundling 339
Rhesus monkey 252
Saccadic eye movement 180
SCH 58261 214
Schizophrenia 175, 228
Scopolamine 10
Sedation 205
Selective breeding 241
Selective serotonin reuptake inhibitor 275
Self-administration 49, 185, 290, 303
Self-control 339, 413
Sensitization 19, 42, 73, 373
Sensorimotor gating 175, 228
Serotonin 19, 60, 87, 101, 185, 194, 313, 348, 391, 400, 413, 422, 440, 473
Serotonin reuptake inhibitors 400
Set point 303
Sigma receptor 81
Single photon emission computed tomography 81
SKF 83959 328
Smoker 455
Social behavior 391
Social dominance 440
Social drinker 33
Startle 228
Stereotyped behavior 42
Stereotypy 233, 241
Stimulus-reward association 373
Stimulus-reward learning 482
Stress 153
Subjective effect 33
Substance abuse 455
Sulpiride 162
SwHi, SwLo rat 241
Swim test 241
Temperature 268
Temporal 24
Titration 303
Tobacco use 290
Tolerance 180
Transdermal delivery 199
Treatment 111
L-Tryptophan 194
Tryptophan depletion 101
Venlafaxine 194
Violence 473
Vocalization 153
Withdrawal 320
Working memory 10, 162, 465
Zolpidem 205